INEEL Oversight

Idaho's eyes on the INEEL

When the federal government developed what is now the INEEL in 1949, the United States was engaged in the Cold War. National security policy centered on developing a larger and more sophisticated nuclear weapon arsenal than the Soviet Union.

To reach this goal, the nation often placed a higher priority on immediate weapons technology development and secrecy than on long-term effects on human health and the environment. When the veil of secrecy finally lifted at the end of the Cold War in the 1980s, many Idahoans learned for the first time that DOE activities had contaminated the Snake River Plain Aquifer.

As the truth about contamination from a half century of nuclear research and weapons production came to light, states increased their demands that DOE and other federal agencies meet the same environmental standards imposed on private industry. Congress eventually passed legislation making federal agencies subject to Superfund cleanup requirements, as well as clean air and hazardous waste laws. However, DOE remained largely self-regulating when it came to nuclear materials and wastes.

In response to continued calls to improve DOE's public image, the Secretary of Energy proposed a nonregulatory oversight role for states that hosted DOE facilities. In 1989, the Idaho Legislature established a comprehensive oversight program for the INEEL. In 1990, Idaho became the first state in the nation to negotiate a 5-year agreement with DOE to provide funding for independent environmental oversight and monitoring of a DOE facility within its borders.

Over the years, the Oversight Program has developed an effective monitoring network to help evaluate the effects of the INEEL on public health and the environment.

Program focus areas and goals

Environmental Surveillance

Oversight maintains an independent environmental surveillance program designed to verify and supplement INEEL monitoring programs. Over the past eleven years, we have developed a database of knowledge that allows us to better understand background radiation, track emissions from site facilities, and follow behavior of contamination in the aquifer.

Monitoring and emergency response work closely together. In case of an emergency, like this summer's fires, we do enhanced monitoring and scrutinize routine monitoring results even more closely than usual. Monitoring data also help us develop an understanding of the environment on and around the site so we know

Quality assurance and control coordinator Kristi Moser and Health Physicist Luke Paulus at a monitoring station which samples atmospheric moisture.

how contaminants could travel through various pathways. This information helps emergency planners prepare for emergencies and take steps to reduce potential impacts. Real-time radiological and meteorological information will also be shared with responders in the event of an emergency.

Oversight publishes technical reports to let other scientists know what we've discovered and a newsletter to let the public know how the INEEL affects the environment. This year we produced posters so people can get a quick read on the situation.

Environmental surveillance activities include an ongoing sampling program for air, water, soil and milk. Oversight also conducts special studies. Several studies that are now underway evaluate the effectiveness of a method to verify if a particular area is indeed "clean." Oversight's environmental surveillance objectives include:

- Focus on quality assurance and control so data will be reliable.
- Continually reassess sampling programs' ability to provide a meaningful picture of air and groundwater impacts from the INEEL.
- Use specialized monitoring equipment to evaluate priority sites.
- Improve soil sampling information by developing an appropriate soil sampling grid.

You'll learn more about Oversight's environmental surveillance in the first section of this report "How does INEEL affect Idaho's environment?"

Impact Assessment

As the agency responsible for coordinating all state activity relating to the INEEL, Oversight is charged with developing a "big picture" view of how the site affects Idaho's environment and inhabitants. That "big picture" view includes: tracking inventories of various types of waste and how they are handled, keeping up-to-date on how facilities are managed, understanding potential impacts of INEEL activities, and evaluating how INEEL is complying with various state agreements and court orders, including the 1995 Settlement Agreement.

Oversight staff regularly visit the site, ask questions and review engineering documents; review and comment on planning and decision-making documents; and conduct independent research on how much risk activities may involve.

Information gathered through impact assessment helps environmental surveillance staff decide where to focus special monitoring efforts, and may also guide the work of emergency planners.

Because many people are concerned about nuclear waste, there's a lot of public information activity involving impact assessment. We provide additional public information and education for high-profile impact assessment issues, like decision-making involving management of high-level waste and the Advanced Mixed Treatment Project.

You'll learn more about Oversight's impact assessment activities in the second section of this report, "Waste at INEEL." There's an overview of issues associated with waste and a section for each

Environmental Scientist Flint Hall explains how a monitoring device works at the Twin Falls County Fair; Idaho Falls Program Manager Ann Dold discusses treatment of nuclear waste at the Boise Town Square Mall.

Information gathered through environmental surveillance and impact assessment helps Oversight Geologist David Frederick develop sophisticated models showing how INEEL has affected the aquifer.

type of waste, as well as sections on some high-profile waste issues.

Oversight's impact assessment goals include:

- Participate in the decision-making process for INEEL high-level waste management.
- Negotiate an agreement for completing the transfer of spent nuclear from pool storage to dry storage. (completed)
- Participate in DOE's long-term stewardship initiative.
- Ensure DOE's Hazards Assessments are revised as appropriate.
- Review planning documents to determine potential impacts of DOE activities in Idaho.

Emergency Planning & Response

Oversight staff work with other state agencies and assist local governments in their planning and response to emergencies involving radiological materials, whether they occur at the INEEL or the many other places in Idaho radioactive materials are used (like hospitals and technology and engineering companies). There are also plans for responding to incidents occurring along transportation routes.

An Oversight Health Physicist is on call, 24 hours a day, 365 days a year, to help local communities or State Police officers respond to any event involving radioactive waste or material. In the event of an incident involving a radioactive hazard, Oversight health physicists assess potential effects to human health and the environment and advise state and local agencies how to respond, and provide data and interpretation of that data to the public.

Environmental monitoring data is vital to good emergency response, as is the information about day-to-day site activities provided by impact assessment activities. In the event of an emergency, or even a field exercise, public information lets the press and the public know what is happening.

You'll learn more about Oversight's emergency planning and response activities in the "Emergency Planning" section of this report.

Oversight's emergency planning and response goals include:

- Ensure State plans are in place to respond effectively to radiological events in Idaho.
- Have appropriate procedures for state participation in the INEEL Emergency Operations Center and DOE's role in off-site field monitoring.
- Conduct exercises to evaluate procedures.
- Improve internet access to emergency data and response information for state and local responders and work with Eastern Idaho Technical College to provide training to state and local emergency response staff.
- Improve interagency cooperation.

Public Information

Oversight was established because people in Idaho didn't know enough about the INEEL, and did not trust the information they received. Every activity Oversight engages in has a public information component: environmental surveillance to explain how the INEEL affects Idaho's environment; impact assessment to let people know if activities at the site pose risks to people or the environment, and emergency planning and response to ensure the public receives accurate, timely information that can be understood and used.

Fires on the INEEL in summer 2000 put Oversight's emergency plans to the test. Initial results from our supplemental monitoring system were posted on the internet within hours, and mailed out in a newsletter in about a week.

Fair-goer studies rocks at the Twin Falls County Fair in Filer in September 2000. Oversight's aquifer model, hands-on geology lessons, and radiation monitors brought hundreds of people in to chat with Oversight staff.

Oversight addresses issues of interest to the public and provides information when and where needed. We try to provide objective information and let people make their own informed decisions. And for those who have confidence in our independent scientific judgment, we provide our best interpretation of health risks based on our results.

Policy-makers are key audiences, as they need independent data to make good decisions. We also target local governments and emergency responders who rely on our expertise. Oversight also works to develop credibility within the scientific community. Our most important audience, however, remains the people for whom the program was created: the citizens of the state of Idaho.

Oversight's public information goals include:

- Maintain and improve our web site.
- Provide information related to high-profile issues.
- Develop new tools to share information.
- Explore new communication venues and increase staff interaction with the public.

Administration

Administration includes the nuts-and-bolts activities which keep the program running, like making sure staff have the tools they need to get their jobs done, evaluating our efforts, and making long-term plans for the program.

Administrative goals include:

- Negotiate new 5-year agreement with the Department of Energy that outlines program activities and goals, and provides for program funding. (completed)
- Update strategic plans.
- Integrate administrative functions with Department of Environmental Quality.

Oversight became part of DEQ on July 1, 2000, when both DEQ and Oversight were separated from the Department of Health and Welfare and became a separate department. The change doesn't affect how Oversight functions or relates to the public, but it does allow Oversight to take advantage of DEQ's administrative functions like purchasing and fleet management.

What is a health physicist?

Health physics is the profession devoted to protecting people and their environment from potential radiation hazards. Ionizing radiation, used in treating cancer or producing electrical power, is a useful commodity. Ionizing radiation, used in large quantities or in an unsafe way, can be harmful.

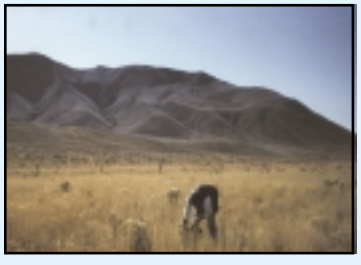
Health physicists control the beneficial use of ionizing radiation while protecting workers and the public from potential danger. Health physics requires an understanding of many fields, including physics, biology, biophysics, engineering, chemistry, genetics, ecology, environmental sciences, metallurgy, medicine, physiology and toxicology.

Oversight's health physicists monitor the environment on and off site; assess environmental affects of INEEL activities, particularly those involving radiation; participate in and coordinate state emergency planning; and provide technical expertise to state and local agencies.

What is an environmental scientist?

Environmental science is concerned with the physical, chemical, and biological conditions of the environment and their effect on organisms.

Oversight's environmental scientists specialize in air, soil, and water pollution, hazardous waste management and waste minimization, geology and hydrogeology, risk assessment, and strategic planning.



Yep, they're glamourous jobs, but someone gets to do them! Here, Environmental Scientist Flint Hall prepares to collect a sample at Mud Lake, and Health Physicist Doug Walker gathers a sample of soil. Typically, Oversight staff spend about half their time in the field and about half in the office. "Every day is different, and that's one of the things I like about the job," says Hall. "I feel good about the work we do."